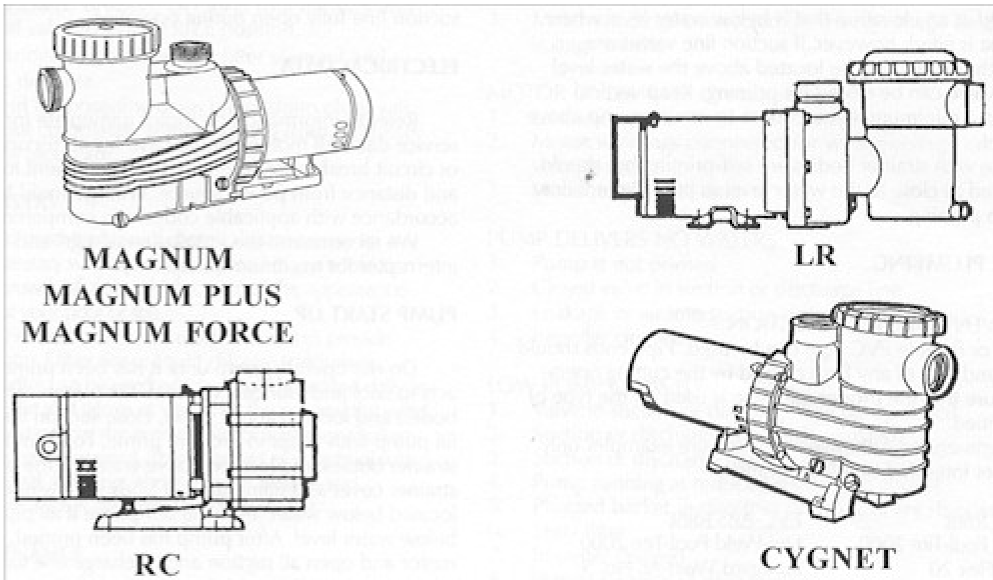
Jacuzzi®

Magnum, RC, LR, Cygnet

E-1451 **Owner's Manual**



Before installation, be sure to read all instructions and warnings carefully.

Refer to product dataplate(s) for additional operating instruction and specifications.

Inspection

Examine the equipment when received. Notify your dealer or carrier of any damage or missing parts. Verify that equipment is of size and model specified.

Important Safety Instructions

When installing and using this electrical equipment, basic safety precations should always be followed, including the following:

1. READ AND FOLLOW ALL INSTRUCTIONS.
2. WARNING – To reduce risk of injury, do not permit children to use this product unless they are closely supervised at all times.
3. WARNING – (For cord & plug connected units). Risk of Electrical Shock. Connect only to a grounding type receptacle protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the receptacle is protected by a GFCI.
4. WARNING – (For cord & plug connected units). Do not bury cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers and other equipment.
5. WARNING – (For cord & plug connected units). To reduce the risk of electric shock, replace damaged cord immediately.
6. WARNING – (For cord & plug connected units). To reduce the risk of electrical shock do not use an extension cord to connect unit to electrical supply; provide a properly located outlet.
7. CAUTION – (For pumps with a 25 ft. (7.62m cord). This pump is for use with storable pools only. Do not use with permanently installed pools. A storable pool is constructed so that it may be readily disassembled for storage and reassembled to its original integrity. A permanently installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage.
8. CAUTION – (For pumps with/without 3ft. (.91m cord). This pump is for use with permanently installed pools and may also be used with hot tubs and spas if so marked. Do not use with storable pools. A permanently installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it may be readily disassembled for storage and reassembled to its original integrity.
9. WARNING – (For hot tub and spa pumps). Do not install within an outer enclosure or beneath the skirt of the hot tub or spa, unless so marked.
10. SAVE THESE INSTRUCTIONS!

Installation Location

Locate pump as close to pool/spa as possible, preferably in a dry, well ventilated area away from direct sunlight. It should be on a hard, level surface. Give consideration to:

should be on a hard, level surface. Give consideration to:

the pump discharge. The valves are essential for pump

1. Drainage – away from pump.
2. Ventilation of pump motor.
3. Access for future servicing and winterizing.
4. Protection from the elements.

Pumps without strainer bodies are designed for flooded suction (all suction fittings and suction piping below water level) and will not self-prime. Consequently, the pump must be installed at an elevation that is below water level when pool or spa is filled; however, if suction line valves are installed, the pump may be closed for priming. Keep vertical distance to a minimum if you choose to mount pump above water level.

Pumps with strainer bodies are self-priming but should be mounted as close to the water level as possible or below for ease in priming.

General Plumbing

FOR SOLVENT WELD CONNECTION

Rigid or flexible PVC pipe can be used. Pipe ends should be clean and free of any flash cause by the cutting operation. Be sure that the proper adhesive is used on the type of pipe specified.

Recommended Adhesives – These are examples only and are not intended to restrict brands.

<u>PVC – PVC Joint</u>	<u>PVC – PVC Joint</u>
Uni-Weld Pool-Tite 2000	Uni-Weld Pool-Tite 2000
Suregard Flex 20	Suregard Weld-All No. 5
IPS Weld-On 705	IPS Weld-On 794

Note: A primer will assure that adhesive joints are superior. Suregard P-3000 has a purple tracer to qualify in areas where codes specify a primer must be used.

Caution: We recommend that you consider climatic conditions when applying adhesives. Certain atmospheric situations, such as high moisture content, make adhesive action of certain glues less effective. Check the manufacturer's instructions.

FOR THREADED CONNECTIONS

Use only Teflon tape or equivalent on threaded plumbing connections. Other pipe compounds may damage threads. We do not recommend the use of silicone or petroleum based compounds. DO NOT OVERTIGHTEN – HAND TIGHTEN PLUS ½ TURN IS SUFFICIENT.

Pump Plumbing

Suction pipe should be as large or larger that discharge pipe. Avoid using suction pipe small that pump connection.

Keep the piping as straight and short as possible, and of suitable size. Avoid connecting an elbow directly into the pump inlet (use a length of straight pipe to allow a proper entry for the water). Arrange horizontal runs to slope upward to the pump to prevent high spots that could form air pockets. Support the pipe independently so that it places no strain on the pump. Keep as much of the suction line as possible below the water level to reduce priming time. Install valves and unions in the pump suction and return lines to facilitate servicing. Valves are recommended for throttling maintenance if the system is installed below deck level. Suction valves are essential for priming all pumps without strainer bodies installed above water level. Pumps with strainer bodies are self-priming, nevertheless, we recommend the use of check valve in the suction pipe at or below the water level if the suction lift is more that five feet or if the dry suction is more that ten feet long. Keep the valve in the suction line fully open during operation.

Electrical Data

Refer to information on motor nameplate fo electrical service data. All motors should have fused disconnect switch or circuit breaker. Be sure wire size is sufficient for pump HP and distance from power source. Wiring should be done in accordance with applicable codes by a competent electrician.

We recommend the installation of a ground fault circuit interrupter for maximum safety.

Pump Start Up

Do not operate pump until it has been primed as water acts to cool and lubricate the seal. For pumps without strainer bodies and locater above water, close suction line valve and fill pump with water in order to prime. For pumps with strainer bodies and located above water, prime by removing strainer cover and filling strainer body with water. Pumps located below water level will self-prime if all piping is also below water level. After pump has been primed, energize motor and open all suction and discharge line valves. It may take some time for pump to remove air from suction lines. If no flow is observed in five minutes, stop the motor and re-prime. If the pump fails to operate, check for air leaks. Refer to Trouble Shooting section.

After about ten minutes of operation, check the return fittings for air bubbles. A continuous flow of air indicates leaks in suction line. Locate and correct any leaks immediately.

CONTROLLING THE OUTPUT

Keep the gate valve in the suction line fully open during operation. Should it be necessary to control the output, use a valve in the return line.

Caution: Do not retighten strainer Ring-Lok during operation.

Caution: Do not operate pump with closed suction or discharge valves.

Two-Speed Pumps

Two-speed models are recommended in a swimming pool when high speed is needed for maximum filtration at peak periods and whenever turbidity levels are high. At other times, switch to low speed. For backwashing and vacuuming, high speed is required.

In spas and hot tubs, use high speed to attain full performance in the hydro-therapy mode. At other times, such as filter/heat cycle mode, use low speed. Low speed provides sufficient flow to activate most spa heaters and provides sufficient flow for filtration.

In jetted tubs, use high speed to attain full performance in the hydro-therapy mode and use low speed mode to prime.

PARTS DIAGRAM FOR MAGNUM, MAGMUN PLUS, & MAGNUM FORCE MODELS

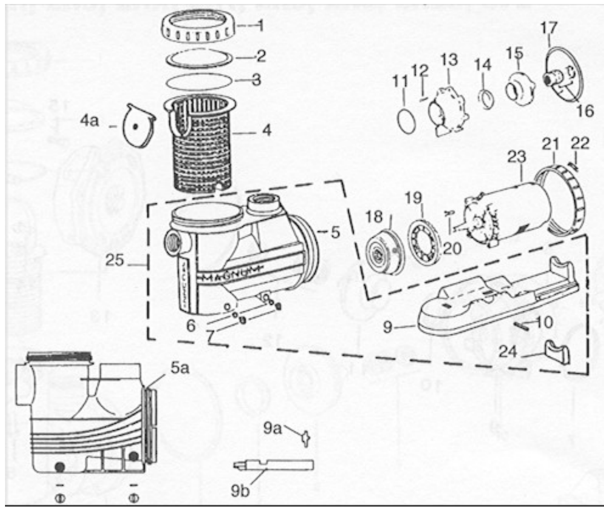


FIG. NO.	PART NO.	DESCRIPTION
1	42-2828-06-R	Cover retainer
2	39-2579-02-R	Strainer cover 7/88
3	47-0358-03-R	O-Ring – Units after 7/89
	47-0434-01	O-Ring 5-5/8 x 6-1/8 x ¼ - Units prior 7/89
4	16-1097-04-R	Strainer basket with Flapper
4a	43-3036-01-R	Flapper
5	03-0856-02-R	Magnum body strainer 2” with plugs
5a	03-2009-04-R	Magnum Force body
6	47-0112-00-R	Plug O-Ring (2req’d)
7	31-1609-06-R	¼” plug with 47011200 O-Ring
9	12-1069-02-R	Base motor support assembly 2/88
9a	12-1124-05-R	Motor support
9b	12-1126-03-R	Motor base
10	14-4231-07-R	Dowel pin ¼ x 1-¼ SS 4/89
11	47-0232-54-R	Square ring
*12	14-4206-08-R	Hex wash. hd. A8 – 16 x 1¼ SS (2 req’d)
13	06-0157-05-R	Diffuser, ½ HP full rate & ¾ HP uprate
	06-0165-05-R	Diffuser, 5-¼ fit. 1-½ – 3 HP full rate & 2 HP uprate
	06-0167-03-R	Diffuser, 4.875 fit. ¾ - 1 HP full rate 1 – 1-½ HP uprate
14	10-1462-07-R	Eye seal
15	05-3800-01-R	Impeller, ½ HP full & ¾ HP uprate 4-3/16” Dia.
	05-3818-01-R	2 HP, full rate 5-3/16” Dia.
	05-3819-00-R	1-½ HP full rate 2 HP uprate 5-1/8” Dia.
	05-3820-07-R	3 HP full rate 5-1/8” Dia.
	05-3854-06-R	1 HP full rate 1-½” HP uprate 4-¾” Dia.
	05-3855-05-R	¾ HP full rate 1 HP uprate 4-¾” Dia.
16	10-1502-09	Shaft seal (replaces 10139004)
17	47-0364-47-R	O-Ring
18	02-1392-02-R	Seal housing, 5-¼ fit. 1-½ – 3 HP full rate, 2 HP update
	02-1366-04-R	Seal housing, 4-9/16 fit. ½ HP full rate, ¾ HP uprate
	02-1393-01-R	Seal housing, 4-7/8 fit. ¾ - 1 HP full rate 1-½ HP uprate
19	02-1368-02-R	Motor housing bracket
20	14-1293-24-R	PL hex capscrew 3/8 – 16 x 7/8 (4 req’d)
21	42-2886-05-R	Pump mounting nut 2/88
22	42-2867-08-R	Mounting nut rachet
23		Motor, see chart pg. 57 for selection
24	42-3555-03	Motor support kit GE to Century
25	24-0138-07	Case/Base assembly

NOTE: 3 each required for diffuser 06-0165-05-R. 5 each required for diffuser 06-0167-03-R

PARTS FOR MODELS RC, URC, RTC, URTC

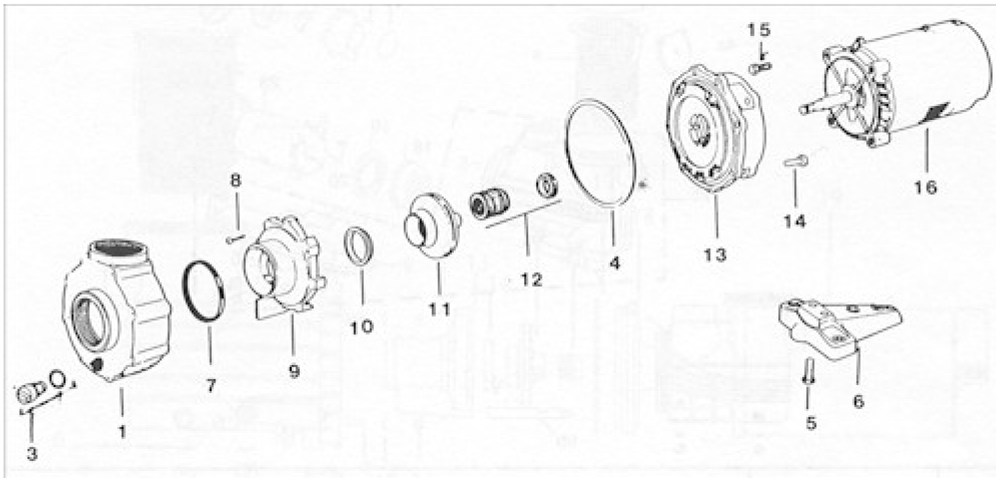


FIG. NO.	PART NO.	DESCRIPTION
1	03-2001-02-R	2” Case/Flange Assy.
3	31-1609-06-R	Drain plug with 47-0112-00 O-Ring
4	47-0466-02-R	Square ring
5	14-4244-02-R	Base fastener kit 2” 4/90
6	12-1036-02-R	Base assembly (with Fastn. Kit #5)
7	47-0462-06-R	Square ring
8	14-4206-08-R	Diffuser, bolt 8-16 x 1 ¼ SS (2 Req’d)
9	06-0157-05-R	Diffuser, ½-1 HP full rate & 1½ HP uprate
	06-0163-07-R	Diffuser, 1½ -2 HP full rate & 2 HP uprate
	06-0164-06-R	Diffuser, 3 HP full rate
	06-0166-04-R	Diffuser, “New” 2HP full rate
10	10-1462-07-R	Eye seal, ½-1 HP full rate & 1½ HP uprate
	10-1463-14-R	Eye seal, 1½-2 HP full rate & 2 HP uprate
	10-1464-13-R	Eye seal, 3 HP full rate eff.
11	05-3806-05-R	Impeller, 5URC UR. 3-5/8” dia.
	05-3800-01-R	Impeller, ½ HP full rate & ¾ HP uprate 4-3/16” dia.
	05-3801-00-R	Impeller, ¾ HP full rate & 1 HP uprate 4-1/16” dia.
	05-3802-09-R	Impeller, 1 HP full rate & 1½ HP uprate 4-25/64” dia.
	05-3803-08-R	Impeller, 1½ HP full rate & 2 HP uprate 4-9/16” dia.
	05-3805-06-R	Impeller, 3 HP full rate 4¾” dia.
	05-3852-08-R	Impeller “new” 2 HP full rate 5” dia.
12	10-1389-07-R	Shaft seal
13	02-1389-07-R	Bracket, 4½” fit ½ - 1 HP full rate & 1½ HP uprate
	02-1351-01-R	Bracket,4-29/32” fit 1½ - 3 HP full rate & 2 HP uprate
	02-1610-08-R	Bracket, 5-5/32” fit “new” 2 HP full rate
14	14-1266-35-R	Bracket bolt ¼ - 20 x ¾ SS (8 req’d)
15	14-1293-24-R	Motor bolt 3/8-16 x 7/8 SS (4 req’d)
16		Motor

PARTS DIAGRAM FOR LR, LR9 LRX, LRT, LR3, LR6, LR25, LVL

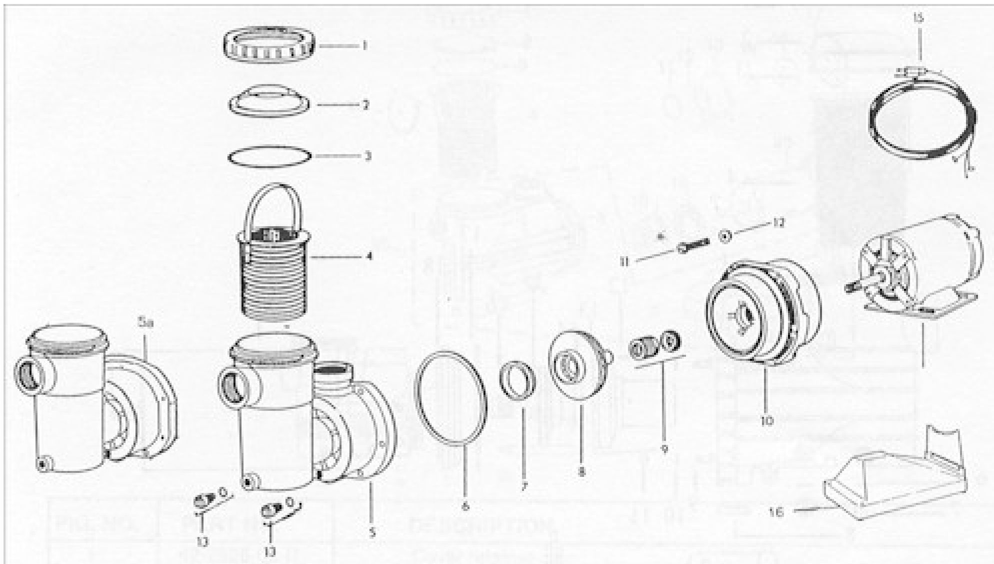


FIG. NO.	PART NO.	DESCRIPTION
1	42-1678-09-R	Strainer nut
2	39-0753-04-R	Strainer cover
3	47-0352-41-R	O-Ring
4	16-0240-02-R	Basket LR
	16-1052-15-R	LVL Strainer Basket
5	16-0307-02-R	Strainer case assy. With plugs LR
	03-1957-24-R	Case assy. With 1 plug and O-Ring LVL
5a	16-0985-01-R	Strainer case assy. 9.00 disch.
6	47-0258-53-R	Square ring 6 x 1/8 x 1/8
7	10-1462-07-R	Seal ring
8	05-3760-09-R	Impeller for 5LVL, 5LR, ½ HP, 3.45D, #9838
	05-3759-02-R	Impeller for 7LVL, 7LR, ¾ HP, 3.73D, #9838
	05-3821-06-R	Impeller for 1LVL, 1LR, 1HP, 4.0D, #9838
	05-3853-07-R	Impeller for 15LVL, 16LR, 1½ HP, 4.22D, #1135D
9	10-0002-06-R	Mechanical seal
10	02-1388-08-R	Bracket
11	14-3970-04-R	PL. Hex 10 – 24 x 1¼ (6 req'd) LR
	14-4238-00-R	SS Hex 10 – 24 x 1¼ (6 req'd) LRDV & LVL
12	14-3971-03-R	PL. Hex nut 10 – 24 (6 req'd) LR
	14-4239-09-R	SS Hex nut 10 – 24 (6 req'd) LRDV & LVL
13	31-1609-06-R	Plug with 47-0112-00 O-Ring
15	23-4856-00-R	Cord with plug 6ft. F/LRX, LR6, 6ft. with 3 prong grounded plug
	23-4718-08-R	Cord with plug 25 ft. F/LR25
	23-4863-01-R	Cord with plug #12-3 115v 3ft. all LR3, twist-lock plu
16	12-1109-04-R	LVL/LTVL with 8587-4105 motor support
17		Motor

PARTS DIAGRAM FOR CYGNET

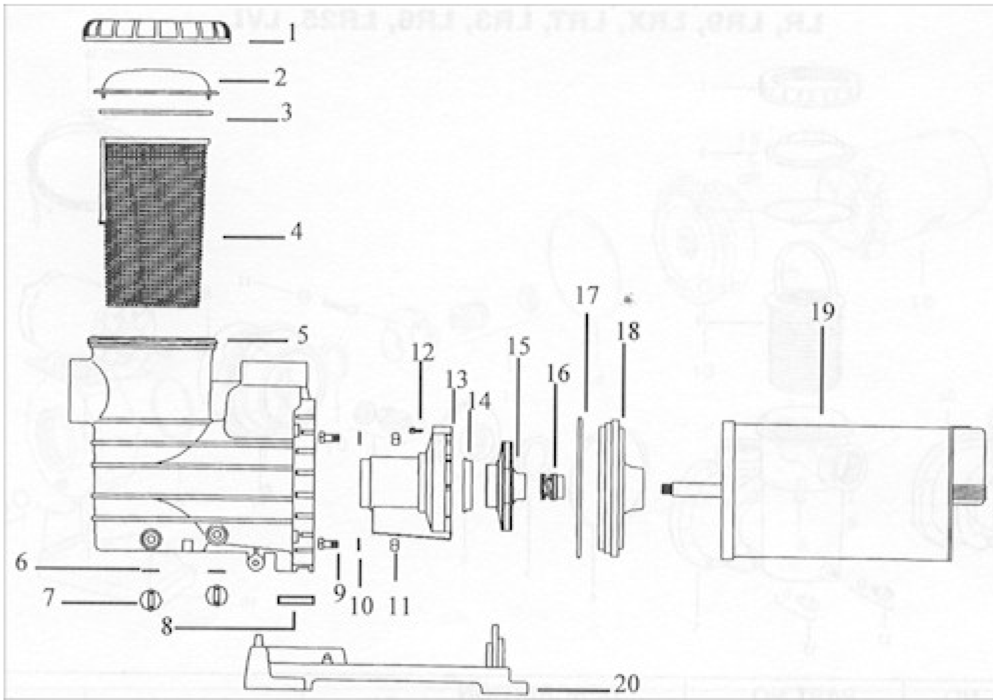


FIG. NO.	PART NO.	DESCRIPTION
1	42-1678-09-R	Strainer RingLok
2	39-0753-04-R	Strainer cover
3	47-0352-41-R	Strainer O-Ring 4-7/8 ID x 3/16 THK
4	16-1052-15-R	Strainer Basket
5	16-1105-04-R	Case with 2" plugs
6	47-0112-00-R	Plug O-Ring (2)
7	31-1609-06-R	Plug with O-Ring (2)
8	14-4231-07-R	Base dowel pin
9	14-1301-02-R	SS Bolt 3/8-16x2 - ½ (4)
10	14-0722-01-R	SS Lock washer – 3/8 (4)
11	14-0727-06-R	SS Nut 3/8-16 (4)
12	14-4206-08-R	Diffuser screws 8 – 16 x 1¼" (2)
13	06-0150-07-R	Diffuser
14	10-1462-07-R	Eye seal
15	05-3936-08-R	IMP ¾ HP
	05-3937-07-R	IMP 1 HP
	05-3939-05-R	IMP 1½ HP
	05-3940-02-R	IMP 2 HP
16	10-0002-06	Mechanical seal
17	47-0361-48-R	O-Ring 6" ID x 3/16 THK
18	11-1520-00-R	Seal plate
19	90-1069-15-R	Motor ¾ HP
	90-1069-23-R	Motor 1 HP
	90-1069-31-R	Motor 1½ HP
	90-1069-49-R	Motor 2 HP
20	12-1135-02-R	Base assy.

Winterizing

Consult your dealer for advice on winterizing your equipment if freezing temperatures occur in your locality. His knowledge of your equipment makes him the best qualified source of information. Follow his recommendations, and if these include draining the filter system, proceed as follows:

1. If your system does not contain a filter, proceed to step2.
   A. For sand filters: BACKWASH for 3 to 5 minutes and set dial valve to WINTERIZE.
   B. For cartridge filters: Clean the filter element and store in a dry place.
2. Drain system by loosening drain plugs (drain plugs will drain without completely removing the plug from unit) and/or removing pipe caps.

Water Chemistry

A proper and consistent use of chemicals is necessary to maintain clean, sanitary water, prevent a spread of germ infection and control the growth of algae which can spoil the appearance and enjoyment of your pool or spa.

Chlorine is the most commonly used chemical to provide clean, sanitary water. Either dry or liquid chlorine (calcium or sodium hypochlorite) can be used which should be added daily as it is dissipated by dirt and germs as well as be the sun and wind.

It is also important that the correct level of acidity or alkalinity of the pool water be maintained. This is the pH of your pool with pH 7.0 being neutral. Readings above 7.0 are alkaline and below are acid. A desirable range is 7.2 – 7.4.

Pump Maintenance

1. Motors are self-lubricating – no lubrication required.
2. Clean hair & lint strainer if you have a strainer body pump.
3. Visually inspect motor for blockage of air vents on motor shell. Remove any debris after breaker off.
4. Shaft seals may become worn and must be replaced if leakage is observed.

Cleaning

Switch power off. Close valves in suction and return line. Unscrew strainer Ring-Lok counterclockwise and remove the strainer cover from hair and lint strainer and lift out strainer basket. Clean and replace the basket. Take care to seat basket properly. Clean O-Ring and re-lubricate with petroleum jelly if necessary. Clean O-Ring seats on cover and strainer. Refit cover and strainer – hand tighten only – and open valves. Put pump back into operation.
Caution: Do not retighten strainer during operation.

Service & Repair Parts

Refer all service to your local dealer as his knowledge of your equipment makes him the best qualified source of information. Order all repair parts through your dealer. Give the following information when ordering repair parts:

1. Unit nameplate data.
2. Description of part.

Trouble Shooting

MOTOR DOES NOT START

1. Disconnect switch or circuit breaker in OFF position.
2. Fuses blown or thermal overload open.
   Locked motor shaft.
3. Motor windings burned out.
4. Defective starting switch inside single-phase motor
5. Disconnected or defective wiring
6. Low voltage

MOTOR DOES NOT REACH FULL SPEED

1. Low voltage
2. 2 speed model set on low speed
3. Motor windings connected for wrong voltage on dual voltage model.

MOTOR OVERHEATS (Protect trips)

1. Low voltage
2. Motor windings connected for wrong voltage on dual voltage model.
3. Inadequate ventilation

PUMP DELIVERS NO WATER

1. Pump is not primed
2. Closed valve in suction or discharge line
3. Leakage or air into suction system
4. Impeller clogged

LOW PUMP CAPACITY

1. Valve in suction or discharge line partly closed
2. Suction or discharge line partly plugged
3. Suction or discharge line too small
4. Pump running at reduced speed (see above)
5. Plugged basket in skimmer or hair and lint strainer
6. Dirty filter
7. Impeller clogged
8. Wrong rotation (3 phase only)

LOW PUMP PRESSURE

1. Pump running at reduced speed (see above)
2. Wrong rotation (3 phase only)
3. Discharge valve or inlet fittings closed too much

HIGH PUMP PRESSURE

1. Discharge valve or inlet fittings closed too much
2. Return lines too small
3. Dirty filters

NOISY PUMP AND MOTOR

1. Plugged basket in skimmer or hair in lint strainer
2. Worn motor bearings
3. Valve in suction line partly closed
4. Suction line partly plugged
5. Vacuum hose plugged or too small
6. Pump not supported properly

LEAKAGE OF WATER AT SHAFT

1. Shaft seal requires replacement

AIR BUBBLES AT INLEY FITTINGS

1. Leakage air into suction line at connections or valve stem
2. Cover gasket of hair and lint strainer needs cleaning
3. Restriction in suction line
4. Low water level in pool

NOTE: If the recommendations in the Trouble Shooting portion of this manual do not solve your particular problem(s), please contact your local dealer for service.

JACUZZI® BROS.
Division of Jacuzzi INC.

LIMITED WARRANTY

Jacuzzi Bros. Division (JBD) warrants its new products to be free of defects in materials and workmanship for a period of 1 year from date of installation or 3 years from date of manufacture, whichever comes first. Jacuzzi Bros. Also provides additional warranty coverage on specific products as specified herein.

Magnum Plus and Magnum Force pumps (excluding pump seal, o-rings, square rings, strainer basket, and lid) are warranted to be free of defects in material and workmanship for a period of 3 years from date of installation or 4 years from date of manufacture, whichever comes first.

JBD's warranty obligation with regard to equipment not of its own manufacture is limited to the warranty actually extended to JBD by its suppliers. Performance of equipment is further warranted to be accordance with stated ratings when properly installed under normal conditions of operation.

This warranty extends only to the original retail purchaser and only during the time in which the original retail purchaser occupies the site where the product was originally installed.

Requests for service under this warranty shall be made by contacting the installing JBD dealer (point of purchase) as soon as possible after the discovery of any alleged defect/ JBD will subsequently take corrective action as promptly as reasonably possible.

JBD at its discretion may replace or repair any product that fails under this warranty after inspection by an authorized company representative or after JBD has received the product at our factory. Replacement or repair cannot be made until after the product is inspected. All charge or expenses for freight to and from the factory, removal and reinstallation of the product, or installation of a replacement product are the responsibility of the purchaser.

THIS WARRANTY SUPERSEDES ANY WARRANTY NOT DATED OR BEARING AN EARLIER DATE. ANY IMPLIED WARRANTIES WHICH THE PURCHASER MAY HAVE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE APPLICABLE WARRANTY PERIOD. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. IN NO EVENT SHALL JBD BE LIABLE FOR INCIDENTAL OR CONSEQUENTAL DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above may not apply to you.

This warranty does not apply to any product which has been subjected to negligence, alteration, accident, abuse, misuse, improper installation, vandalism, civil disturbances, or acts of God. The only warranties authorized by JBD does not authorize other persons to extend any warranties with respect to its products, nor will JBD assume liability for any unauthorized warranties made in connection with the sale of its product.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.